14000 SERIES TRANSMITTER - INTERNAL ANTENNA QUICK INSTALL GUIDE

SYSTEM SPECIFICATIONS

System Components

- XR 14000 Series Transmitter - Internal Antenna

Optional Equipment

- GPS Receiver
- GPS Extension Cable
- GPS Receiver Mounting Kit
- Satellite Transmitter

INSTALLATION AND CONFIGURATION

Transmitter and GPS Receiver Location

The first step in setting up the transmitter is to determine a suitable location for the transmitter and GPS Receiver. Location is extremely important to ensure the best operation of the system. You must consider the following:

Installation and Configuration Overview

- Review the Installation Location Guidelines and identify the installation location of the system components.
- Inspect system components to verify packaging includes all supplied parts for each system component and verify no damage has occurred during shipping.
- Do not install or attempt to set the system wireless clocks or devices until the system components are installed and configured, the transmitter is powered and its time source is configured, and the transmitter is fully operational.

Summary of Installation

Listed below is a summary of the order in which the system and its components are to be installed and configured.

1. Route the GPS cable.
2. Install the GPS receiver.
3. Connect the transmitter antenna.
4. Connect the transmitter time source.
5. Establish the transmitter settings and verify connections.
6. Verify the system is operational.

Installation Location Guidelines

When planning the system installation, Primex Wireless recommends taking into consideration the below installation guidelines.

Transmitter Installation Location Guidelines

- Transmitter should be located a minimum of 2 to 3 feet above the floor.
- As a guideline keep transmitting antenna away from large metal objects, such as lockers or filing cabinets. If this is not possible, locate transmitter a minimum of 3.5' (1.07m) away from metal objects.
- Locate transmitter within 8 feet from a 120 VAC electrical outlet.
- The transmitted signal from the antenna radiates in a circular and "umbrella" pattern; therefore a central location for the transmitter where the antenna is at maximum allowable height is recommended to ensure best possible coverage.
- In multi-story buildings, installation the transmitter on the top floor will often significantly improve coverage to the lower floors due to the "umbrella" pattern of transmission.

GPS Receiver Installation Location Guidelines

Determine a suitable location for the GPS receiver unit. Location is extremely important to ensure the best operation of the system. You must consider the following:

- GPS receiver unit requires a "clear view of the sky" to receive a GPS signal 24 hours a day.
- Typical mounting locations of the GPS receiver unit include the inside of a window (not a Low-E glass window), to an exterior pole or on a rooftop.
- GPS receiver unit should be kept away from large metal objects.
- GPS receiver unit and cable are mounted above any potential standing water, snow depth, leaves or other obstructions and it protected from weather.
- Maximum total distance of the GPS cable to the transmitter cannot exceed 200' (60.96m).
- If the GPS cable is located outdoors, the use of a gelwrap splice enclosure is strongly recommend.

Tools and Equipment Required

To install the system and its components, you will need the following tools and equipment.

- Hammer drill
- 5/8" concrete drill bit, 18" (45.72cm) long
- Caulk for concrete
- Phillips and flat head screwdrivers
- Transmitter shelf (recommended)

Route GPS Cable

Complete the below steps to route and connect the GPS cable to the transmitter.

1. From the outside of the building, route the GPS cable through thea 5/8" 3/4" drilled hole into the building.

Install GPS Receiver

Mounting Kit Contents

The GPS Receiver mounting kit is supplied with the following parts. If any of these items are missing, contact Primex Wireless.

Part	Quantity
Mounting bracket	1
LVC and connector	1
M3 x 0.5 x 6mm pan head screws	2
#6 x 3/8 sheet metal screw	3
Suction cups	3
U-bolt with nuts for mounting on 1" (2.54cm) pole	1

Mounting the GPS Receiver

If the system will use GPS as its time source, complete the following installation steps.

1. Verify the kit contents.
2. Verify the installation location meets the installation guidelines.
3. Assemble and mount the GPS receiver unit to an inside of a window (not Low-E glass), an outside pole, or rooftop. The mounting location is required to have a clear view of the sky.

CAUTION: Be sure to follow local building code requirements when attaching the GPS unit to the inside of a window. Clean the windowpane before using the suction cups for attachment.

Figure 1: GPS Receiver Installation Components and Illustration

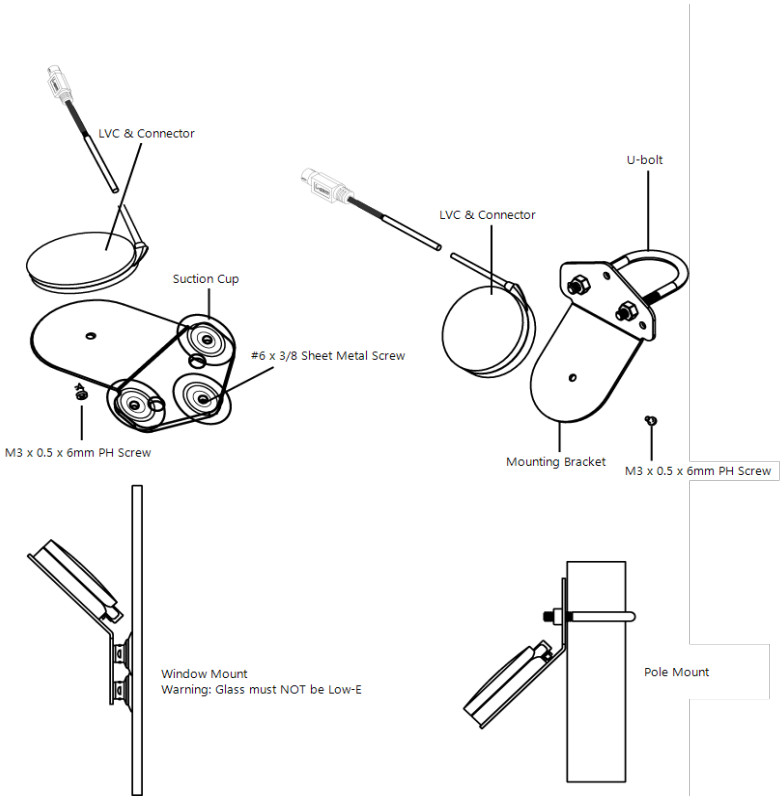
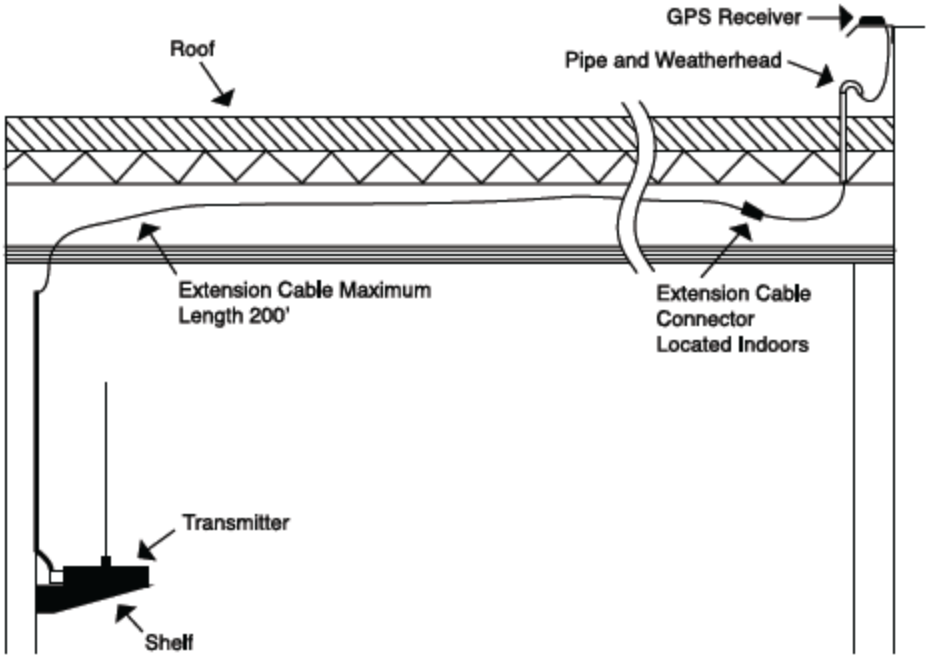


Figure 2: GPS Receiver Mounting Illustration



Connect Transmitter Antenna

1. Carefully screw the transmitter antenna onto the transmitter. Turn the antenna clockwise, being careful to avoid cross-threading the antenna. The antenna must be snug and flat against the case.

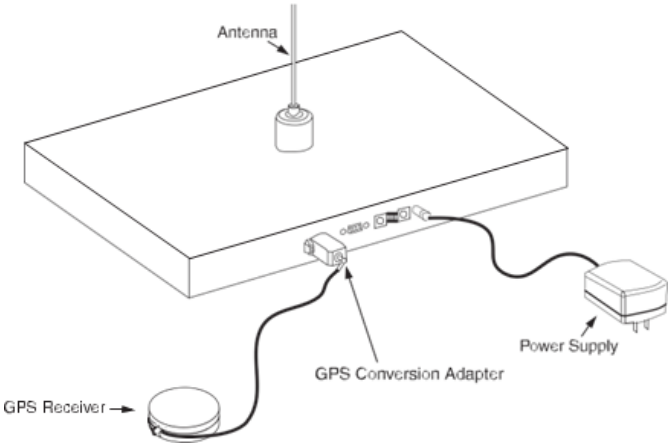
Setup the Transmitter

1. Carefully screw the transmitter antenna onto the transmitter. Turn the antenna clockwise, being careful to avoid cross-threading the antenna. The antenna must be snug and flat against the case.

> **CAUTION:** Do not over-tighten the antenna. Hand-tighten only.

2. Plug the included DB9/RJ45 GPS conversion adapter into the GPS socket located in the back of the Transmitter.

Figure 3: 14000 Transmitter - Internal Antenna



3. Plug the GPS cable into the GPS conversion adapter.
4. Set the switch preferences located on the back of the transmitter The transmitter continually checks the position of the switches. The switches select time zone, channel number, 12- or 24-hour display, and the observance of Daylight Saving Time.

Figure 4: 14000 Transmitter - Back View

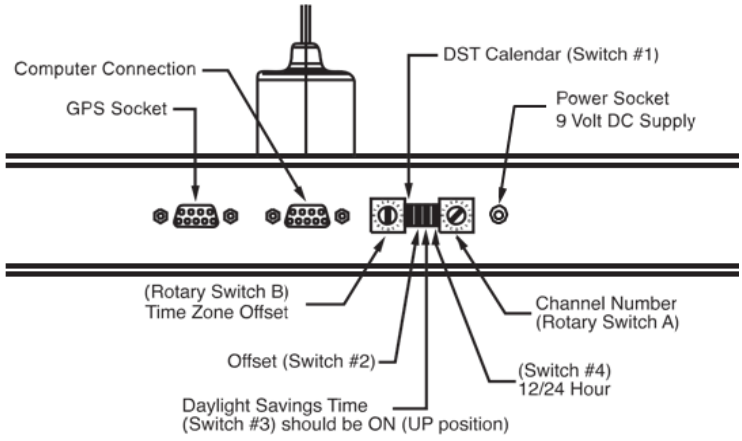


Table 1: 14000 Series Transmitter - Switch/Component Specifications

<table>
<tr><th>Switch/Component</th><th>Description</th></tr>
<tr><td>Rotary Switch A (channel selection)

Warning: Do Not adjust this switch. It is only to be set to the frequency specified on the FCC/IC application.</td><td>Factory preset to the FM frequency on which the transmitter will broadcast.

There are 16 available channels. The chart below explains which switch positions correspond to which channel numbers.

<table>
<tr><th>Switch No.</th><th>Channel No.</th><th>Switch No.</th><th>Channel No.</th></tr>
<tr><td>0</td><td>16</td><td>8</td><td>8</td></tr>
<tr><td>1</td><td>1</td><td>9</td><td>9</td></tr>
<tr><td>2</td><td>2</td><td>A</td><td>10</td></tr>
<tr><td>3</td><td>3</td><td>B</td><td>11</td></tr>
<tr><td>4</td><td>4</td><td>C</td><td>12</td></tr>
<tr><td>5</td><td>5</td><td>D</td><td>13</td></tr>
<tr><td>6</td><td>6</td><td>E</td><td>14</td></tr>
<tr><td>7</td><td>7</td><td>F</td><td>15</td></tr>
</table></td></tr>
<tr><td>Rotary Switch B</td><td>Sets the time zone. Use a small slotted screwdriver to adjust the rotary switch.

“4” for Atlantic Time Zone

“5” for Eastern Time Zone

“6” for Central Time Zone

“7” for Mountain Time Zone

“8” for Pacific Time Zone

“9” for Alaska Time Zone

“A” for Hawaii Time Zone</td></tr>
<tr><td>Switch #1</td><td>Sets the Daylight Saving Time Calendar.

Up to automatically change to the new Daylight Saving Time calendar in 2007.

Down to abide by the old schedule in 2007.</td></tr>
<tr><td>Switch #2</td><td>Sets the direction of UTC offset.

Up for U.S. and Canada

Down for Europe</td></tr>
</table>

Switch/Component	Description
Switch #3	Sets the automatic Daylight Saving Time adjustment. Up for automatic Daylight Saving Time changes Down to bypass Daylight Saving Time adjustments
Switch #4	Sets the clock display on the transmitter. Up for 12-hour display Down for 24-hour display

5. Plug the supplied 9 Volt 2.0 Amp DC power supply (transformer) into the transmitter.
6. Plug the power supply (transformer) into a 120 VAC outlet.

Verify System is Operational

The final step is to verify the system is operating and functional.

1. Verify a GPS signal has been received.
2. Verify the Time and Date are correct.
3. Verify the Channel Number is set correctly.

SUPPORT

Technical Support

Prime Wireless Technical Support responds to specific questions about product features, system configuration, and troubleshooting. All support services will be delivered in accordance with your organization's support agreement and warranties.

Contact Technical Support

Before contacting Primex Wireless Technical Support, make sure you have satisfied the system requirements that are listed in your product documentation. Also, you should be at the computer on which the problem occurred, in case it is necessary to replicate the problem.

When you contact Technical Support, please have the following information available:

- Customer ID
- Problem description
- Device hardware information
- Error messages
- Troubleshooting performed before contacting Primex Wireless
- Recent network changes

Technical Support	
Telephone	(800) 404-8112
Email	techsupport@primexinc.com
Fax	(262) 248-0061
Hours	7:00 am to 7:00 pm CST | Monday through Friday
Web	www.primexwireless.com